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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,974

09/26/2005

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EXAMINER

BARKER, MATTHEW M

ART UNIT

PAPER NUMBER

3662

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,974	Applicant(s) KORNBICHLER ET AL.	
	Examiner MATTHEW M. BARKER	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/28/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because the lettering "/sff" at the end of the abstract should be removed. Correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-20, 23-26, and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai (6,384,768) or the admitted prior art of the present specification.

Regarding claims 13, 20, and 23-26, Kai discloses a pulsed distance measurement radar transceiver assembly (Figure 1) including a transmitter, receiver, receiver oscillator (2), and mixer (9). Likewise, Figure 4 of the admitted prior art discloses a pulsed distance measurement radar transceiver assembly including a transmitter, receiver, receiver oscillator (HFO-Rx) and mixer (MIX). Neither Kai nor Figure 4 explicitly disclose that the transient response of the receiving oscillator is influenced by the reception signal. However, it is well known in the art that radar receivers experience coupling between the antenna and oscillator, which influences the transient response of the oscillator. This fact is acknowledged by the specification on page 12, line 25- page 13, line 7. It would have been obvious to one skilled in the art that the transient response of the receiver oscillators of Kai and Figure 4 are influenced by the received signal, especially in the absence of an isolator to separate the oscillators and antennas.

Regarding claim 14, the claim merely describes effects of the coupling discussed above. It is obvious that the average power of the oscillators of Kai and Figure 4 would be influenced. The build up time of Figure 4 would also be influenced as discussed above and acknowledged in the present specification.

Regarding claim 15, Kai nor Figure 4 disclose measuring the power of the oscillator, but the claim does not require that power be measured. It is however, possible to measure the power in each system; therefore the claim is met by Kai and Figure 4.

Regarding claims 16 and 17, Figure 4 discloses switching the oscillator on and off (Po-Rx) periodically following a clock rate (CLK-Rx).

Regarding claim 18, Kai discloses that the receiving oscillator is also a transmitting oscillator (See Figure 1).

Regarding claim 19, Figure 4 discloses a transmitting oscillator (HFO-Tx).

Regarding claims 29-31, Kai discloses the assembly in combination with a motor vehicle. The admitted prior art discloses such systems may be utilized in combination with motor vehicles, buildings, and industrial plants (page 1, lines 11-17). It would have been obvious to one of ordinary skill in the art to use the radar assemblies of Kai or Figure 4 in any setting that requires the detection of a target in order to achieve conventional advantages in the art with no new or unexpected results.

Regarding claim 32, the claim describes the inherent method of operation for the assembly as discussed regarding claims 13 and 23.

Regarding claim 33, Kai (Abstract) and the admitted prior art (page 1, lines 7-17) disclose measuring a distance to a target.

5. Claims 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai as applied to claim 13 above, and further in view of Figure 4 of the admitted prior art.

Regarding claims 16 and 17, Kai does not disclose switching the oscillator on and off. Figure 4 discloses switching the oscillator on and off (Po-Rx) periodically following a clock rate (CLK-Rx). It would have been obvious to modify Kai to switch the

oscillator on and off periodically following a clock rate as taught by the admitted prior art in order to save power (see page 4, line 24- page 5, line 9 of background section of the present specification).

Regarding claim 19, Kai does not disclose a separate transmitting oscillator for generating the transmission signal. Figure 4 discloses separate oscillators. It would have been obvious to one of ordinary skill in the art to modify Kai to include separate oscillators in order to achieve the well known advantage of ensuring isolation between separate transmit and receive frequency spectra.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Figure 4 of the admitted prior art of the present specification as applied to claim 13 above, and further in view of Kai.

Figure 4 does not disclose that the receiving oscillator is also a transmitting oscillator. Kai discloses that the receiving oscillator is also a transmitting oscillator (See Figure 1). It would have been obvious to modify Figure 4 to use a single oscillator for transmission and reception as taught by Kai for the well known advantage of a reduced part count.

7. Claims 21, 22, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai or the admitted prior art of the present specification as applied to claim 13 above, and further in view of Stikvoort et al. (6,192,229).

Kai nor Figure 4 disclose the details of the mixers, and therefore do not disclose the claimed diode configurations of claims 21 and 22. Stikvoort discloses a diode mixer circuit including the claimed polarities and measurement signal formations (See Figure

1 and Abstract). It would have been obvious to modify the mixer of Kai or Figure 4 as suggested by Stikvoort in order to ensure low noise and low distortion (column 2, lines 15-29)

Response to Arguments

8. Applicant's arguments, see Remarks, filed 1/28/2008, with respect to the rejection(s) of claim(s) 13-33 under 35 USC 103 by Examiner Ly have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kai and the admitted prior art.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art relates to various radar systems or mixer designs.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW M. BARKER whose telephone number is (571)272-3103. The examiner can normally be reached on M-F, 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew M Barker/
Examiner, Art Unit 3662

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662